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EXAMINER

DUDA, KATHLEEN

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JUSTIN K. BRASK

Appeal 2009-010685
Application 10/658,225
Technology Center 1700

Before MICHAEL P. COLAIANNI, BRADLEY R. GARRIS, and
ADRIENE LEPIANE HANLON, *Administrative Patent Judges*.

HANLON, *Administrative Patent Judge*.

DECISION ON APPEAL¹

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

A. STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134 from an Examiner's decision finally rejecting claims 13, 14, 16-18, 20-25, and 32-40, all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

The claims on appeal are directed to a method for selectively etching metal films using chelating agents. Chelating agents are organic compounds that bind with metal atoms or ions to form highly soluble structures composed of a central metal atom or ion surrounded by a number of negatively charged ions or neutral ligands/substituents. Spec., para. [0019]. The Appellant discloses that chelating agents are known to be used for removing metallic impurities in semiconductor device manufacturing processes. Spec., para. [0020].

According to one embodiment of the Appellant's invention, a chelating agent is tailored to bind with specific metals or alloys to provide selective etching of metal films. Spec., para. [0030]. The Appellant discloses that multiple tailored chelating agents, each targeting a specific metal, may be used to target a specific alloy. Spec., para. [0031].

Claim 13, reproduced below, is representative of the subject matter on appeal.

13. A method comprising:

depositing a first metallic film and a second metallic film
on a substrate;

depositing a layer of photoresist on at least the first
metallic film;

patterning the photoresist such that a desired portion of the first metallic film is masked and an undesired portion of the first metallic film is exposed;

selecting two or more chelating agents based upon the metals contained in the first metallic film; and

using the two or more chelating agents to remove the undesired portion of the first metallic film, wherein the two or more chelating agents do not impair the second metallic film.

App. Br., Claims Appendix (emphasis added).²

The only Examiner's rejection on appeal is the rejection of claims 13, 14, 16-18, 20-25, and 32-40 under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Bojkov (US 6,979,647 B2, issued December 27, 2005).

The Appellant argues the patentability of the claims on appeal as a group. Therefore, for purposes of this appeal, claims 14, 16-18, 20-25, and 32-40 stand or fall with the patentability of claim 13. 37 C.F.R. § 41.37(c)(1)(vii) (2009).

B. ISSUE

The dispositive issue in this appeal is:

Did the Examiner reversibly err in concluding that the teachings of Bojkov render obvious the steps of selecting at least two chelating agents based on the metals contained in a first metallic film and using those chelating agents to remove an undesired portion of the film as recited in claim 13?

² Appeal Brief dated September 8, 2008.

For the reasons set forth in the Examiner's Answer dated October 31, 2008 ("Ans."), we answer this question in the negative. We add the following for emphasis.

C DISCUSSION

The Examiner finds that Bojkov discloses a chemical etching method that uses a chelating agent to selectively etch a first metal. According to the disclosed method, a resist layer 201 defines an opening 202 which exposes a metal seed layer 104. Chelating agents are added to an oxidizing etchant solution, and the chelating agents selectively bind the seed ions into chemical complexes. Ans. 4; Bojkov 5:28-31.

The Examiner finds that Bojkov discloses:

Dependent on the metals used in seed layer 104, one can select chelating agents specific for certain metals or metal families, or chelating agents which can bind with nearly any metal ions with different association constants.

Bojkov 5:45-48. Based on this disclosure in Bojkov, the Examiner concludes that it would have been obvious to one of ordinary skill in the art to use more than one chelating agent if more than one metal is present in the seed layer. Ans. 4.

The Appellant does not address this particular disclosure in Bojkov. Instead, relying on other portions of Bojkov, the Appellant argues that Bojkov does not disclose a second chelating agent. *See, e.g.*, App. Br. 8.

The portion of Bojkov relied on by the Examiner (Bojkov 5:45-48) teaches that chelating agents may be selected for specific metals. Thus, in the case of a seed layer comprising more than one metal, we agree with the Examiner that this disclosure suggests selecting more than one chelating agent to selectively etch the seed layer.

The § 103(a) rejection on appeal will be affirmed.

The Examiner does not provide a rationale, apart from obviousness, to support the § 102(e) rejection on appeal. Therefore, the § 102(e) rejection will be reversed. *See In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997) ("To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently.").

D. DECISION

The rejection of claims 13, 14, 16-18, 20-25, and 32-40 under 35 U.S.C. § 103(a) as obvious over Bojkov is affirmed.

The rejection of claims 13, 14, 16-18, 20-25, and 32-40 under 35 U.S.C. § 102(e) as anticipated by Bojkov is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

sld

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